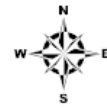


Appendix F:
Wilderness Review

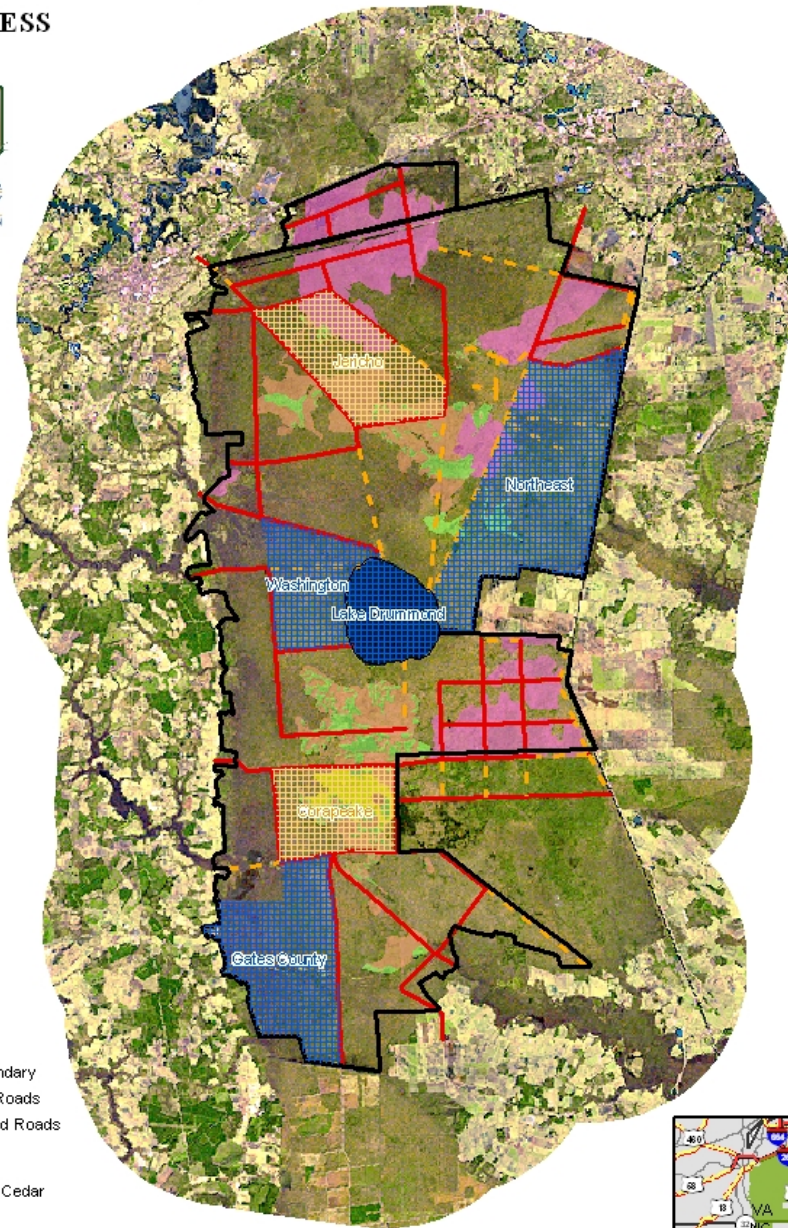
Great Dismal Swamp
National Wildlife Refuge

WILDERNESS
REVIEW



Legend

- Refuge Boundary
- Maintained Roads
- Unmaintained Roads
- Pine
- Intermediate Cedar
- Mixed Cedar
- Pure Cedar
- Units proposed as WSA
- Units considered but not proposed as WSA



0 1.25 2.5 5 7.5 10 Miles

Figure F-1.

Appendix F. Wilderness Review

Introduction

The purpose of a wilderness review is to identify and recommend to Congress lands and waters of the National Wildlife Refuge System (NWRS) that merit inclusion in the National Wilderness Preservation System (NWPS). Wilderness reviews are required elements of comprehensive conservation plans, are conducted in accordance with the refuge planning process outlined in the Fish and Wildlife Service Manual (602 FW 1 and 3), and include compliance with the National Environmental Policy Act (NEPA) and public involvement.

The wilderness review process has three phases: inventory; study; and, recommendation. Lands and waters that meet the minimum criteria for wilderness are identified in the inventory phase (Phase I). These areas are called wilderness study areas (WSAs). In the study phase (Phase II), a range of management alternatives are evaluated to determine if a WSA is suitable for wilderness designation or management under an alternate set of goals and objectives that do not involve wilderness designation.

The recommendation phase (Phase III) consists of forwarding or reporting the suitable recommendations from the Director through the Secretary and the President to Congress in a wilderness study report. The wilderness study report is prepared after the record of decision for the final CCP has been signed. Areas recommended for designation are managed to maintain wilderness character in accordance with management goals, objectives, and strategies outlined in the final CCP until Congress makes a decision or the CCP is amended to modify or remove the wilderness proposal. If the final determination in a CCP is that a WSA is not suitable, the decision is documented in the CCP, ending the study process. The unsuitable areas will then be managed following the management direction outlined in the CCP.

Phase I. Wilderness Inventory

Introduction

The wilderness inventory is a broad look at the planning area to identify WSAs. A WSA is a roadless area of undeveloped Federal land and water that meets the minimum criteria for wilderness as identified in Section 2(c) of the Wilderness Act.

Great Dismal Swamp National Wildlife Refuge personnel, listed at the end of this appendix, gathered information and conducted an inventory of the refuge's lands and waters. That process required combining site knowledge with existing land status maps, photographs, available land use information and road inventory data to determine if the refuge lands and waters met the minimum criteria for wilderness. Aerial photographs were used to document the imprint of human work, road locations, and other surface disturbances.

Minimum Wilderness Criteria

A WSA is required to be a roadless area or island, meet the size criteria, appear natural, and provide for solitude or primitive recreation.

Roadless— Roadless refers to the absence of improved roads suitable and maintained for public travel by means of motorized vehicles primarily intended for highway use. A route maintained solely by the passage of vehicles does not constitute a road. Only Federal lands **and** waters are eligible to be considered for wilderness designation and inclusion within the NWPS.

The following factors were the primary considerations in evaluating the roadless criteria.

- A. The area does not contain improved roads suitable and maintained for public travel by means of motorized vehicles primarily intended for highway use.
- B. The area is an island, or contains an island that does not have improved roads suitable and maintained for public travel by means of motorized vehicles primarily intended for highway use.
- C. The area is in Federal fee title ownership.

Size— The size criteria can be satisfied if an area has at least 5,000 acres of contiguous roadless public land, or is sufficiently large that its preservation and use in an unimpaired condition is practicable.

The following factors were the primary considerations in evaluating the size criteria.

- A. An area of more than 5,000 contiguous acres. State and private lands are not included in making this acreage determination.
- B. A roadless island of any size. A roadless island is defined as an area surrounded by permanent waters or that is markedly distinguished from the surrounding lands by topographical or ecological features.
- C. An area of less than 5,000 contiguous Federal acres that is of sufficient size as to make practicable its preservation and use in an unimpaired condition, and of a size suitable for wilderness management.
- D. An area of less than 5,000 contiguous acres that is contiguous with a designated wilderness, recommended wilderness, or area under wilderness review by another Federal wilderness managing agency such as the Forest Service, National Park Service, or Bureau of Land Management.

Naturalness— The Wilderness Act, Section 2(c), defines wilderness as an area that “generally appears to have been affected primarily by the forces of nature with the imprint of human work substantially unnoticeable.” The area must appear natural to the average visitor, rather than “pristine.” The presence of historic landscape conditions is not required.

An area may include some human impacts provided they are substantially unnoticeable in the unit as a whole. Significant hazards caused by humans, such as the presence of unexploded ordnance from military activity and the physical impacts of refuge management facilities and activities are also considered in evaluating the naturalness criteria.

An area may not be considered unnatural in appearance solely on the basis of the sights and sounds of human impacts and activities outside the boundary of the unit. The cumulative effects

of these factors in conjunction with land base size, physiographic and vegetative characteristics were considered in the evaluation of naturalness.

The following factors were the primary considerations in evaluating naturalness.

- A. The area appears to have been affected primarily by the forces of nature with the imprint of human work substantially unnoticeable.
- B. The area may include some human impacts provided they are substantially unnoticeable in the unit as a whole.
- C. Does the area contain significant hazards caused by humans, such as the presence of unexploded ordnance from military activity?
- D. The presence of physical impacts of refuge management facilities and activities.

Solitude or Primitive and Unconfined Recreation—A WSA must provide outstanding opportunities for solitude or primitive and unconfined recreation. The area does not have to possess outstanding opportunities for both solitude and primitive and unconfined recreation, and does not need to have outstanding opportunities on every acre. Further, an area does not have to be open to public use and access to qualify under this criteria; Congress has designated a number of wilderness areas in the Refuge System that are closed to public access to protect resource values.

Opportunities for solitude refer to the ability of a visitor to be alone and secluded from other visitors in the area. Primitive and unconfined recreation means non-motorized, dispersed outdoor recreation activities that are compatible and do not require developed facilities or mechanical transport. These primitive recreation activities may provide opportunities to experience challenge and risk; self reliance; and adventure. These two elements are not well defined by the Wilderness Act, but can be expected to occur together in most cases. However, an outstanding opportunity for solitude may be present in an area offering only limited primitive recreation potential. Conversely, an area may be so attractive for recreation use that experiencing solitude is not an option.

The following factors were the primary considerations in evaluating outstanding opportunities for solitude or primitive unconfined recreation.

- A. The area offers the opportunity to avoid the sights, sounds and evidence of other people. A visitor to the area should be able to feel alone or isolated.
- B. The area offers non-motorized, dispersed outdoor recreation activities that are compatible and do not require developed facilities or mechanical transport.

Supplemental Values— The Wilderness Act states that an area of wilderness may contain ecological, geological, or other features of scientific, educational, scenic or historical value. Supplemental values of the area are optional, but the degree to which their presence enhances the area's suitability for wilderness designation should be considered. The evaluation should be based on an assessment of the estimated abundance or importance of each of the features.

Summary of Wilderness Inventory Findings

Approximately 76,000 acres (Figure F-1) of the Great Dismal Swamp NWR were eliminated from consideration as a WIA, because they consisted of less than 5,000 contiguous acres. In addition, they do not meet the roadless, naturalness, or solitude criteria due to one or more of the following factors: clear evidence exists that these areas have been logged over the past two centuries; they are bisected by logging roads and ditches/canals that drained water from the areas to support logging and agriculture; and the existence of utility rights-of-way. Therefore, the imprint of human work is obvious and prominent throughout the area. Moreover, refuge management activities are ongoing throughout some of these areas involving the restoration of marshes and bogs and restoration of globally-rare habitats such as pine/pocosin and Atlantic white cedar forests. Some areas contained developments including the refuge headquarters; operations compound; and kiosks, trails, and parking areas for visitor services.

The planning team identified six roadless areas that met the first and third size criteria. These six areas were further evaluated to determine whether they met the criteria for a WSA. The wilderness values of each of these areas are described in the following sections and summarized in Figure F-2.

Wilderness Inventory Areas

Unit 1 - Northeast (9,360 acres)

This area is bounded by the Dismal Swamp Canal and adjacent Highway 17 on the east; Fivemile Ditch on the north; Portsmouth Ditch on the west; and the refuge boundary, the Feeder Ditch, and Lake Drummond on the South. This unit lies almost completely on organic soils and historically represented the headwaters of the Northwest River. Today, the Dismal Swamp Canal, constructed in 1805 and part of the Atlantic Intracoastal Waterway, intercepts drainage from this area, so the water from this area reaches the Northwest River only during floods. No access trails or roads enter the interior of the unit. Red maple is the dominant forest type with some scattered pine stands and an Atlantic white cedar stand east of Portsmouth Ditch. The two-mile Southeast Ditch that drains the areas and the remains of railroads and rail equipment are scattered throughout the area are evidence of past logging. The Northeast Unit contained Atlantic white cedar forests that were severely damaged by Hurricane Isabel in September 2003 and will require active restoration that will include commercial harvest. Evidence of past logging and hydrologic disruption adversely affect the “naturalness” of this area. Therefore, this area is not recommended for designation as a WSA.

Unit 2 – Gates County (8,000 acres)

This WIA is located in the southwestern portion of the refuge bounded by the refuge boundary on the west, U.S. Highway 158 on the south, Weyerhaeuser Road on the east and Cross Canal on the north. The eastern portion of this unit is almost entirely maple/gum with the exception of several small mesic islands containing large beech, oak and loblolly pine. The western portion contains one of the largest stands of cypress/tupelo gum on the refuge. This unit is roadless, with no developed access into the interior of the unit. The 50-acre Fringe Marsh, located along the

southern boundary, was created in 1985 utilizing mechanical clearing and prescribed fire. This area once drained into the Pasquotank River and Perquimans River in North Carolina during periods of heavy rainfall. However, the construction of U.S. 158 in 1950 created a dike which forces all drainage into the Pasquotank River, because the highway has no culverts that would preserve natural drainage patterns. Although this area has been logged over the past 200 years, the lack of railway artifacts and developed ditches and canals minimize the evidence of logging. Nevertheless, the clear evidence of refuge habitat manipulation and hydrologic disruption precludes the recommendation of this area as a WSA.

Unit 3 – Jericho (5,850 acres)

This unit is bounded on the north by Hudnell Ditch Road, on the east by Hudnell/East Ditch Roads, on the south by Camp Ditch, and on the west by Jericho Ditch Road. The western portion of this unit once contained extensive stands of Atlantic white cedar, but now only remnant stands of “old growth” cedar remain north of Camp Ditch as a result of the combination of hydrologic disruptions, past logging, and absence of habitat maintenance. Mature cedar is scattered throughout much of the unit in small groups or as single trees. A 120-foot tall fire tower, constructed by the Virginia Department of Forestry in the 1950’s, is located on the unit’s western boundary on Jericho Ditch Road. More recently, firelines were constructed in 2002 to contain wildfires near the unit’s western boundary. Overall, the human influences, particularly logging and hydrologic disruptions, to this area are subtle, but these influences are detectable. Therefore, this area is not recommended as a WSA.

Unit 4 – Washington (2,500 acres)

Although well under the 5,000-acre minimum for a WSA, this unit was considered because of its scenic values. Developed access into the interior of this unit does not exist. The unit is bounded on the north by Railroad Ditch, West Ditch Road on the west, Lake Drummond on the east, and on the south by Interior Ditch. This unit lies on organic soils dominated by maple/black gum or cypress/black gum forests. Public access to this area is limited to the two roadways (West Ditch Road and Interior Ditch Road) where limited vehicle access to the edge of the unit is allowed. Although the area has been logged over the past two centuries, the evidence is likely to be noticed primarily by resource management specialists who have some knowledge about the ecology of the Great Dismal Swamp. Therefore, the area appears to most visitors to have been affected primarily by the forces of nature with the imprint of human work substantially unnoticeable. However, the current practice of allowing motorized vehicles along the boundaries of this area creates some uncertainty about the wilderness values of the tract. Therefore, the area is not recommended for designation as a WSA.

Unit 5 – Lake Drummond (5,000 acres)

Lying in center of the refuge and one of only two natural lakes in Virginia, Lake Drummond offers significant opportunities for solitude as well as scenic and historical value. A one quarter mile buffer was recommended around the perimeter of the lake to protect the visual quality of the area and to reach the 5,000 acres necessary for consideration as a WSA. Two gravel roads reach the lake from the west side, and the Feeder Ditch provides small boat access from the east. The use of motorized boat access and use of Lake Drummond for fishing and wildlife observation, priority uses of the National Wildlife Refuge System, is permitted. Lake Drummond is unquestionably considered to be one of the most scenic areas within the refuge, and the low level of motorized boat traffic allows the retention of solitude on this large natural lake. Nevertheless,

the existence of man-made structures (piers and observation platforms at the mouth of Washington and Interior Ditches, Feeder Ditch Canal, boat ramp at Interior Ditch) and the use of motorized boats detract from the wilderness values. Therefore, this area is not recommended for designation as a WSA.

Unit 6 – Corapeake (4,575 acres)

The boundary of this unit consists of Corapeake Ditch on the north, Forest Line Ditch on the east, Cross Canal on the south, and Sherrill ditch on the west. This unit lies entirely on deep organic soils. The western portion is primarily maple/sweetgum forest, while the central and eastern portion contains some of the largest stands of mature Atlantic white cedar on the refuge. Commercial logging took place in this unit as late as the early 1970's, and the effects can still be seen. Many of the remaining mature stands require commercial logging and heavy equipment operation for restoration and maintenance. The evidence of past logging and current habitat manipulation detract from the wilderness values of this unit. Therefore, it is not recommended for designation as a WSA.

Conclusion

The refuge has roadless areas of significant size that create the appearance of wilderness to many visitors. However, closer examination of each WIA reveals characteristics that detract from the values and manageability of these areas as wilderness. In a broader context, the area within the Great Dismal Swamp National Wildlife Refuge is only a small remnant of an ecosystem that once extended over as much as 1,000,000 acres. The refuge incorporates the most intact remaining remnant of this vast system, but this remnant has been altered and influenced by humans over the past two centuries.

In 1974, the Secretary of the Interior reported to Congress that the “pristine character of the swamp no longer exists as a result of physical alterations.” This same report stated that the “ability to restore the Great Dismal Swamp as aggressively as it was altered must be maintained”. At some time in the future, habitat restoration and scientific knowledge about the Great Dismal Swamp ecosystem may reach a level where designation of some portions of the refuge as wilderness would be desirable. However, continued restoration, management, and research will be needed before a credible recommendation could be developed.

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